

*Micrometrical Measures of Double Stars (Tenth Series) and
New Double Stars.* By the Rev. T. E. Espin, M.A.

Name.	R.A. 1900.				Decl.	P.	D.	Mags.	Nts.	Date.
	h	m	°	'	°	"				1913.
ρ 59	0	8.6	46	15	212.5	11.73		9.5 10.2	3	.951
ρ 60		25.0	46	4	299.7	11.68		9.3 10.6	3	.951
ρ 61		27.2	46	10	98.8	12.50		9.1 9.6	3	.951
+49° 131		29.2	49	40	67.6	9.58		7.7 14.0	3	.860 1912
+46° 144		37.4	46	48	67.6	12.27		9.1 9.2	2	.935
h 2033	1	11.9	48	30	51.7	10.17		9.5 11.3	2	.956
Σ 112		14.8	45	50	187.0	4.75		8.3 12.0	3	.984 BC
					331.7	22.18		8.0 8.3	4	.970 AB
+47° 451		28.2	48	14	14.2	7.62		9.4 12.0	2	.074
h 2057		30.1	45	51	44.5	11.37		8.7 10.1	2	.969
A.G. 24		45.5	45	19	171.8	16.05		8.5 8.7	2	.967
+48.865	3	7.3	48	12	195.8	11.65		8.5 9.2	2	.034
β 1294		13.8	46	19	229.8	6.17		8.8 9.1	2	.962
Σ 384		20.4	59	33	266.8	1.95			2	.109
Holmes		21.6	59	34	51.2	5.12		9.0 10.5	2	.109
Webb		34.5	59	39	94.9	21.37		7.5 13.0	3	.129 AB
					300.0	34.90	C=	12.6	3	.129 AC
					36.0	54.28	D=	8.5	3	.129 AD
Σ 519 rej.	4	13.3	50	8	346.7	17.97		7.2 9.3	3	.173
OZ Σ 47		13.4	50	1	257.8	22.80		7.5 10.5	3	.173 BC
					326.3	26.08	$a=$	14.0	3	.173 A α
					327.6	72.55		6.5 7.5	3	.173 AB
Σ 586 rej.		39.1	52	57	129.3	28.40		9.4 9.8	1	.189
Σ 587		40.1	52	56	184.4	21.15		6.5 8.8	1	.189
Σ 619		53.6	50	7	125.0	4.03			3	.175
Webb	6	2.5	43	9	216.1	43.63		6.9 8.4	3	.172
+43° 1475		4.3	43	11	214.8	15.42		6.8 10.5	2	.169
Σ 1009		57.7	52	54	154.3	3.35		6.7 6.8	2	.187
+46° 1255	7	14.2	46	25	265.5	81.10		8.0 8.2	1	.257
+46° 1476		37.2	45	36	277.7	11.10		8.0 11.5	1	.148
Espin 591	8	0.5	45	30	48.2	2.02		9.5 9.8	2	.235
A 1774		3.9	44	57	300.1	4.13		9.0 10.8	3	.220
+45° 1727	9	24.2	45	28	239.9	36.40		9.0 9.3	2	.235
Σ 1358		24.5	45	7	163.3	24.32		7.3 8.5	2	.235
Σ 1376		38.7	43	41	132.7	5.20		8.2 8.4	2	.235 AB
					331.9	68.88	C=	13.5	2	.235 AC
+44° 1913		44.0	44	28	275.2	12.75		8.0 9.5	1	.307 1912
+45° 1848	10	32.2	45	24	271.4	7.52		9.2 11.5	2	.267 1912

Name.	R. A. 1900.	Decl.	P.	D.	Mags.	Nts.	Date.
	^h ^m	[°] [']	[°]	["]			1913.
+44° 2024	10 47.4	44 31	45.4	8.70	8.5 9.3	2	.305 1912
+43° 2069	55.0	43 16	200.1	13.50	7.0 11.0	2	.297
OΣ 240	11 48.4	43 28	318.9	8.40	8.0 9.6	2	.349 1912
A 1778	52.6	45 51	226.9	2.77	8.7 10.4	3	.287 1912
+44° 2162	12 3.3	44 28	278.8	19.20	8.1 9.3	2	.371 1912
Espin 124	11.2	42 27	116.6	7.98	8.5 12.5	4	.387
h 1215	11.6	42 23	18.5	26.37	10.0 10.1	3	.384
h 2614	26.9	41 7	33.0	23.57	10.0 11.2	2	.387
A 1850	36.5	44 32	50.2	2.60	8.9 10.1	2	.371 1912
+43° 2261	44.5	42 47	50.1	47.48	7.3 7.6	3	.374
Espin 606	56.8	42 58	283.2	9.25	8.3 10.5	1	.375
Espin 607	13 0.7	43 15	224.7	6.10	9.0 10.5	2	.398
Espin 125	0.9	42 13	121.9	2.67	8.0 10.2	2	.395
h 1230	11.9	42 34	168.1	16.30	10.5 11.0	2	.387
+43° 2335	22.1	43 4	219.1	24.35	9.5 9.6	2	.387
h 1247	14 6.6	41 35	133.2	5.52	9.0 9.8	3	.426
θ Boötis (Ward)	21.8	52 19	181.9	68.80	4.0 11.5	2	.431
Ku 49	40.6	41 50	199.8	1.55	9.2 9.7	1	.443
h 1258	46.9	43 51	69.4	25.25	9.1 13.0	2	.430
Σ 1895	53.7	40 34	42.9	12.57	7.2 7.7	2	.424
h 1264	54.2	40 37	318.4	19.40	9.2 9.4	3	.433
h 2773	15 13.3	41 47	145.1	28.42	8.9 9.5	2	.438
Espin 74	13.4	41 39	121.7	8.87	8.0 12.0	2	.438
+45° 2280	18.8	45 29	5.6	26.22	8.6 8.9	2	.424
+45° 2470	16 53.5	45 14	251.9	48.70	8.2 8.3	2	.505
A 1881	17 41.3	46 16	204.8	4.46	9.1 10.7	3	.598
+44° 2878	18 16.8	44 51	21.9	10.23	8.2 10.1	3	.754
+45° 2742	31.4	45 6	227.1	11.65	8.8 10.6	3	.658
Σ 2380	40.0	44 49	8.7	25.98	7.2 8.4	3	.717
+44° 2985	41.8	44 51	50.1	10.80	8.6 9.0	3	.754
Espin 22	41.8+45	44	134.2	2.85	9.2 12.5	3	.804 AB
			216.0	24.55	9.8	2	.796 AC
h 1356	53.5	45 23	342.3	29.88	8.6 8.9	2	.804
h 1357	54.2	45 44	212.2	27.57	8.0 9.7	2	.810
A.G. (Bonn)	55.3	47 3	229.7	2.35	8.3 8.4	4	.775
Σ 2463	19 3.1	45 40	5.6	10.07	8.4 9.1	3	.652 AB
			281.7	24.30	C= 12.3	3	.652 AC
h 1380	9.9	47 35	227.7	4.95	8.9 9.3	3	.797
Espin 128	14.0	47 0	279.7	4.30	8.5 12.0	2	.796
Espin 23	47.2	44 54	136.5	8.47	7.5 11.6	5	.724
			327.0	31.50	C= 9.0	3	.704
OΣ 393	54.6	44 7	228.6	20.12	7.5 8.5	2	.690
o ¹ Cygni (Espin 26)	20 10.2	46 31	250.7	34.32	5.0 13.2	3	.874 1912

246 *Rev. T. Espin, Micrometrical Measures of Double* LXXIV. 3,

Name.	R.A. 1900.		Decl.		P.	D.	Mags.		Nts.	Date.
	^h 20	^m 11'0	[°] 52	['] 49	[°] 114'0	["] 5'15				1913.
Σ 2658					114'0	5'15	7'0	9'0	2	697 AB
					311'9	33'87	a=	13'0	2	697 Aa (New)
					209'3	46'00	C=	8'8	2	697 AC
Espin 27	11'2	46	34		339 2	4'10	9'3	9'3	2	909 1912
Σ 2707	34'6	47	35		30'7	22'42	7'2	8'7	2	936 AB 1912
					195'9	54'57	C=	7'5	2	936 AC
					191'2	16'35	a=	13'5	2	936 Aa (New)
Espin 89	35'2	47	43		199'5	16'60	6'5	10'2	2	936 1912
+ 44° 3596	46'5	44	58		346'0	9'85	8'2	13'2	3	800
Arg. 40	47'9	44	56		251'6	8'62	8'8	9'1	2	796
59 Cygni	56'4	47	7		353'8	19'93	4'5	8'0	3	282 AB
					141'2	26'58		9'0	3	282 AC
					220'3	38'27		11'0	3	282 AD
β 160	21 8'5	45	19		111'0	6'40	10'7	10'9	2	735 BC
					154'3	57'47	A=	7'4	3	735 AB
h 1635	15'0	47	22		360'0	15'48	9'2	11'2	3	923 AB 1912
					82'8	18'87	C=	13'4	2	931 AC
					240'0	18'62	D=	13'8	2	931 AD
h 1660	30'7	45	32		239'7	5'97	11'6	12'2	2	924
Espin 101	32'7	45	42		3'2	3'35	9'5	11'7	3	939
Espin 34	33'6	50	5		136'4	2'77	9'0	11'7	2	909 AB 1912
					69'8	39'50	C=	9'5	2	909 AC
Σ 2832	45'6	50	3		213'4	12'72	7'0	7'3	3	940 1912 AB
					319'1	45'92	C=	9'7	3	940 1912 AC
					333'5	51'13			3	940 1912 BC
A 780	57'3	44	46		146'9	1'67	7'5	7'7	2	941 AB
h 1715	57'9	44	48		252'7	13'65	11'0	11'7	3	939
β 700	22 22'4	49	11		335'1	9'80	8'2	12'0	2	896 1912
β 380	22'8	49	12		324'0	24'87	7'4	11'7	2	896 1912 AB
					135'1	36'70	C=	7'6	2	896 1912 AC
					242'6	21'27	D=	12'5	2	896 1912 CD
					89'5	23'60	a=	13'3	2	896 1912 Aa
					26'9	17'77	c=	13'6	2	896 1912 Cc
+ 49° 4088	23 15'2	50	8		292'7	7'20	9'5	12'5	4	806 1912
+ 50° 4101	34'1	50	21		267'4	7'40	9'5	13'0	2	762 1912
A.G. (Bonn)	35'3	49	15		245'1	18'25	8'7	8'8	2	799 1912
Hu 794	35'6	49	22		67'8	2'60	8'9	11'4	2	799 1912
+ 49° 4189	36'4	49	20		244'2	13'05	9'1	9'5	2	799 1912
h 1903	37'5	49	28		207'1	6'27	9'5	9'6	2	799 BC 1912
					9'4	28'27	A=	9'3	2	799 AB 1912
					195'2	11'4	a=	13'5	1	805 Aa 1912
p 58	46'6	46	30		65'5	5'27	9'5	9'7	2	386

Notes.

0ΣΣ 47.—The only other measures of BC were made at the time of its being first seen—1892·96, P 257°·0, D 21°·68, 2 nts. The small *comes a* has not been observed before.

Webb, 6^h 2^m·5.—Taken from Mr. Webb's MS. His observation, 220°±, 35°±, 7·5, 9·5; 1878 April 6. The chief star is B.D. +43°, 1466. I have measured also B.D. +43°, 1475, a similar pair in angle, but with *comes* fainter, and distance a third less.

A. G., 18^h 55^m·3.—This fine pair is not in Burnham, and the only other measures are mine—1907·85, P 229°·0, D 2°·37, 3 nts.

♄ Cygni (B.D. +46°, 2881).—The only other measures are mine—1900·48, P 252°·0, D 32°·92, 4 nts.

β 160.—Two faint *comites* follow BC, nearest P 84°·6, D 23°·2, mag. 13, from single setting.

h 1635, 21^h 15^m, h 13°·0.—As the angle differed from *h*, the place was redetermined, and leaves no doubt that the right star was observed.

h 1660, 21^h 30^m·7, h 217°·8.—The place of this star was redetermined and found to agree with that of *h*. There are no other measures.

h 1715, 21^h 57^m·9, h 251°·8.—There are no other measures.

β 380.—The small *comites a* and *c* are mentioned by β.

A.G. (Bonn), B.D. +49°, 4183.—This star was measured by β for *h* 1903.

h 1903, 23^h 37·5.—This star is B.D. +49°, 4195. *h*'s angle 295°·5, and he adds "a star, 10 mag. rather to the south of the line of junction." The very faint *comes a* is new, and nothing more was obtained except a single setting.

ρ 58.—The neighbouring star was found to be a somewhat similar pair in distance, and is No. 1291 in the list of new doubles.

New Double Stars.

No.	B.D.	R.A. 1900.	Decl.	P.	D.	Mags.	Nts.	Date.
		^h ^m	° ' "	°	"			1913.
1192	+44° 4551	0 0·3	+44 48	298·9	1·70	9·2 9·4	3	'992
1193	+46° 4261	2·0	46 50	70·7	2·60	9·5 9·6	2	'796
1194	+45° 28	8·0	46 3	290·1	5·77	9·5 10·2	2	'976
1195	+45° 36	9·0	45 39	11·0	7·25	9·3 9·6	3	'999
1196	+45° 59	14·4	46 6	184·5	5·65	9·5 13·2	2	'990
1197	+48° 83	15·2	48 38	107·2	6·30	8·5 11·5	3	'904
1198	+48° 88	15·9	48 15	188·1	6·78	8·6 11·5	3	'931
1199	+45° 74	17·4	45 41	16·1	2·97	9·2 9·6	3	'999
1200	+45° 76	18·0	46 0	55·2	1·75	13·0 13·3	3	'991 BC
				325·1	47·75	A= 8·2	2	'987 AB
1201	+45° 80	18·4	46 1	75·6	7·05	8·5 12·8	3	'999
1202	+45° 108	22·9	46 12	33·4	2·52	9·6 10·0	2	'987
1203	+46° 138	36·2	46 54	66·6	6·87	8·3 11·5	2	'935
1204	+48° 304	53·3	48 41	348·2	4·09	9·6 9·8	3	'840
1205	+48° 316	55·5	48 20	113·6	2·87	9·3 9·8	2	'825
1206	+47° 304	59·7	47 56	179·6	5·45	8·8 12·7	3	'974
1207	+48° 386	1 10·6	48 33	95·8	4·00	9·1 12·0	2	'957
1208	+48° 389	11·6	48 27	51·1	5·47	9·5 10·5	2	'957
1209	+48° 420	18·5	48 42	308·2	5·92	9·6 9·8	2	'879
1210	+46° 367	23·9	46 59	180·7	2·35	9·2 11·2	2	'981

248 *Rev. T. Espin, Micrometrical Measures of Double* LXXIV. 3,

No.	B.D.	R.A. 1900.	Decl.	P.	D.	Mags.	Nts.	Date.
		^h ^m	[°] [']	[°]	["]			1913.
1211	+46° 426	1 35.8	46 15	235.5	6.66	8.5 13.0	3	'991
1212	+48° 529	41.7	48 19	13.1	4.06	9.5 9.6	3	'056
1213	+46° 470	46.9	46 51	131.2	2.41	9.4 12.0	3	'955
1214	+46° 481	50.8	46 24	215.1	3.35	9.4 9.6	2	'965
1215	+47° 576	2 4.7	47 31	172.8	3.45	9.3 12.4	3	'846
1216	+46° 583	25.9	46 32	92.8	1.62	9.3 9.4	3	'958
1217		48.9	47 22	282.5	2.33	9.4 9.5	3	'966
1218	+45° 759	3 18.5	45 24	263.0	1.72	9.6 9.9	3	'991
1219	+59° 663	22.8	59 33	271.1	5.52	9.4 12.7	2	'160
1220	+59° 664	22.8	59 34	346.1	3.77	9.3 13.2	2	'160
1221	+49° 1009	39.6	49 23	1.9	2.57	9.4 9.7	3	'055
1222	+48° 1014	46.1	48 23	87.8	5.82	9.4 10.1	2	'976
1223	+47° 941	4 1.8	47 45	111.5	4.05	9.4 11.3	3	'979
1224	+47° 951	4.7	48 1	188.7	1.45	9.5 9.6	2	'976
1225	+47° 987	16.4	47 27	130.8	5.15	9.5 10.7	2	'991
1226	+48° 1126	33.5	48 28	276.8	7.32	9.0 10.7	3	'185
1227	+47° 1063	46.3	47 26	237.4	4.10	9.3 10.7	3	'987
1228	+48° 1186	50.4	48 53	302.1	6.52	9.2 9.8	2	'108
1229	+48° 1211	57.4	48 23	256.2	5.66	9.3 10.7	4	'169
1230	+47° 1098	5 0.3	47 40	6.2	7.30	9.0 12.2	2	'183
1231	+46° 1002	15.1	46 15	35.9	1.12	9.3 10.0	2	'994 AB
				9.4	14.12	C= 10.5	2	'994 AC
1232	+47° 1224	52.2	47 51	262.7	3.75	9.5 10.7	2	'183 AB
				175.2	22.72	C= 9.8	2	'183 AC
1233		56.3	47 54	211.1	3.03	9.2 11.0	3	'185
1234	+48° 1339	58.3	48 15	267.0	9.82	7.1 11.5	2	'169
1235	+47° 1289	6 14.0	47 24	156.2	2.72	9.4 9.5	4	'211
1236	+47° 1291	16.0	47 21	266.1	6.02	8.9 10.8	2	'208
1237	+48° 1433	39.8	48 32	358.0	5.25	9.0 11.2	3	'177
1238	+47° 1376	52.8	47 17	202.1	3.25	9.6 9.9	2	'235
1239	+46° 1212	53.1	46 35	0.0	5.10	9.4 9.7	1	'257
1240	+47° 1402	7 0.6	47 0	102.6	7.92	9.3 12.8	3	'352 AB
				285.0	11.25	C= 13.9	3	'352 AC
1241	+48° 1514	12.8	48 0	0.5	3.57	9.4 9.4	2	'177
1242	+46° 1265	19.1	46 23	268.7	7.85	9.2 9.5	1	'257
1243	+46° 1295	33.4	46 5	320.2	3.25	9.4 10.1	2	'250
1244	+43° 1965	9 44.1	43 13	227.2	2.05	9.1 10.1	2	'274
1245	+43° 1986	55.7	43 17	169.9	5.55	8.8 9.7	3	'343
1246	+43° 2039	10 36.7	43 35	56.5	3.67	9.3 9.7	2	'297
1247	+43° 2046	42.3	43 27	281.8	2.72	9.1 9.6	2	'250

No.	B.D.	R.A. 1900.		Decl.	P.	D.	Mags.		Nts.	Date.
		^h 12	^m 6.2	^o 41	^o 54	^o 76.9	^o 2.07			1913. 373
1248	+42° 2277	12	6.2	41	54	76.9	2.07	9.5 9.7	2	'373
1249	+43° 2313	13	9.3	43	38	201.6	2.87	9.5 12.0	3	'411
1250	+42° 2519	14	35.8	42	18	164.7	6.45	8.8 12.2	2	'431
1251	+40° 2832		54.0	40	35	54.5	7.03	8.7 13.1	3	'431
1252	+46° 2051	15	14.4	46	33	20.2	1.95	9.5 9.6	3	'397
1253	+45° 2392	16	15.4	45	24	231.6	6.40	9.2 10.2	2	'424
1254	+45° 2476		55.0	45	32	133.4	5.30	9.5 12.5	3	'481
1255	+46° 2253		58.1	46	25	44.8	8.41	8.0 11.7	4	'496
1256	+47° 2486	17	24.7	47	21	332.3	5.03	9.4 12.4	3	'576
1257	+45° 2574		35.4	45	3	261.1	2.70	9.1 9.5	3	'561 AB
						121.5	52.83	C= 9.6	2	'586 A
1258	+45° 2575		36.0	45	26	323.4	5.92	9.2 13.1	4	'598
1259	+46° 2581		49.4	46	58	226.7	6.25	8.6 9.3	4	'578
1260	+45° 2640		57.5	45	48	201.1	3.65	9.5 10.6	2	'606
1261	+45° 2735	18	29.5	45	6	207.8	8.07	8.9 11.5	2	'641
1262	+45° 2737		29.6	45	8	257.6	1.55	9.4 9.5	2	'641
1263	+46° 2538		41.0	46	13	242.3	6.20	9.5 12.0	3	'598
1264	+45° 2781		47.9	45	35	116.3	3.70	9.5 10.6	2	'619
1265	+45° 2793		51.5	46	2	299.2	5.55	9.5 12.6	3	'585
1266	+46° 2743	19	35.1	46	21	344.7	3.20	9.6 10.0	3	'580
1267	+46° 2795		49.3	46	31	161.7	5.78	8.8 12.3	3	'642
1268	+44° 3379	20	9.0	44	47	154.2	7.85	8.8 10.0	2	'796
1269	+44° 3380		9.1	44	51	46.5	5.72	9.0 13.2	2	'796
1270	+44° 3549		39.3	44	59	291.2	6.10	9.3 9.9	4	'626
1271	+44° 3672		57.5	45	4	30.7	2.95	9.4 10.1	2	'686
1272	+45° 3443	21	8.4	45	25	53.7	3.10	9.3 9.6	3	'765
1273	+45° 3446		8.9	45	27	73.2	4.77	13.1 13.6	2	'730 BC
						9.0	38.20	A= 8.6	4	'766 AB
1274	+45° 3556		25.5	46	2	240.2	2.55	9.4 13.3	3	'717
1275	+45° 3640		38.5	45	49	336.5	4.30	13.0 13.4	3	'813 BC
						279.2	5.22	D= 13.2	2	'805 BD
						3.6	66.47	A= 8.6	2	'805 AB
1276	+45° 3641		39.2	45	22	287.2	2.40	9.4 10.2	2	'820
1277	+47° 3748	22	11.8	48	9	5.9	6.05	9.2 12.8	3	'326 AB 1912
						199.5	11.72	C= 13.8	3	'326 AC 1912
1278	+45° 3891		16.5	45	21	73.8	8.12	8.5 10.7	2	'950
1279	+46° 3671		17.5	46	34	299.4	4.87	8.4 12.1	3	'904
1280	+45° 3907		18.5	45	16	255.4	6.42	8.6 9.2	2	'923
1281	+46° 3688		20.5	46	50	167.2	6.67	8.5 9.7	3	'856
1282	+45° 3918		20.6	45	19	55.8	4.51	9.0 12.3	3	'941

No.	B.D.	R.A. 1900.	Decl.	P.	D.	Mags.	Nts.	Date.
		^h ^m	[°] [']	[°]	["]			^{1913.}
1283	+46° 3689	22 20·7	47 7	13·7	7·57	9·1 13·2	2	·805
1284	+46° 3697	21·7	46 53	65·7	2·09	9·3 12·0	4	·864
1285	+46° 3704	22·8	46 38	135·7	4·40	9·4 10·7	2	·818
1286	+45° 3982	29·2	45 21	352·6	3·07	9·2 10·1	2	·918
1287	+45° 4023	37·9	46 0	24·0	6·29	9·6 10·3	3	·905
1288	+45° 4024	38·0	46 4	338·2	4·90	9·4 10·4	3	·905
1289	+45° 4089	51·1	46 7	98·8	6·72	8·6 13·3	3	·852
1290	+45° 4166	23 8·0	46 13	65·7	3·15	9·4 10·5	2	·823 AB
				292·8	17·40	C= 11·6	2	·823 AC
1291	+46° 4194	46·9	46 29	146·8	5·17	9·1 10·7	2	·386
1292		56·6	45 44	86·7	3·10	9·7 9·8	2	·823
1293	+46° 4249	59·4	46 50	4·6	6·05	9·4 9·6	3	·800

Notes.

- 1200 BC.—A difficult object, and the measures are little better than approximate.
1208.—This pair lies SP Σ 102, while *h* 2033 lies NF; the angle of position is similar, but the distance is only about half that of *h* 2033.
1251.—Star in field immediately f Σ 1895, a very difficult object to measure in the twilight of the nights in June.
1273.—There is a 14 mag. P 290° $\pm$ D 24" from A.
1279.—8·4 is orange-red.

On the Enhanced Lines of Manganese in the Spectrum of α Andromedæ. By F. E. Baxandall, A.R.C.Sc. (Plate 11.)

(Communicated by Professor Newall.)

In the Harvard publications relating to the classification of stellar spectra α Andromedæ is placed in Group VIII. (type star α Geminorum) in Miss Maury's classification, and in Class A₀ (type star α Canis Majoris) in Miss Cannon's later classification. In each case a suffix is given indicating that the spectrum shows peculiarities which distinguish it from the normal stars of the group. No detailed record of the lines in the spectrum appears to have been given either in the Harvard publications or elsewhere. In the former, however, the following general remarks are made * on the spectrum: "This star is peculiar in the intensities and wave-lengths of some of its lines. It may for convenience be classed with stars of Group VIII., approaching Group VII., but in the details of its spectrum it is not like those of either group. The hydrogen lines are the same as in the above-mentioned groups, and the majority of the remaining lines are those of Group VIII.,

* *Annals Harv. Coll. Obs.*, vol. xxviii., part i. p. 95. Remark 67.